What is Claimed is:

1. A turbocharger assembly comprising:

a turbine housing;

a turbine wheel rotatably disposed within the turbine housing and attached to a shaft;

a center housing connected to the turbine housing and carrying the shaft;

a compressor housing attached to the center housing;

a compressor rotatably disposed within the compressor housing and attached to the shaft, the compressor comprising two impellers in back-to-back orientation with one another, the compressor housing including at least one air inlet for directing air into the compressor housing and to the compressor impellers; and

means for controlling the flow of air within the compressor housing.

2. The turbocharger assembly as recited in claim 1 wherein the compressor housing includes two separate air inlets that are in air flow communication with respective compressor impellers.

3. The turbocharger assembly as recited in claim 2 wherein the air inlets are oriented to receive air axially with respect to the compressor.

4. The turbocharger assembly as recited in claim 2 wherein the air inlets are oriented to receive air radially with respect to the compressor.

5. The turbocharger assembly as recited in claim 1 wherein the compressor housing comprises a single common air inlet that is in air flow communication with respective compressor impellers.

6. The turbocharger assembly as recited in claim 5 wherein the air inlet is oriented to receive air axially with respect to the compressor.

7. The turbocharger assembly as recited in claim 5 wherein the air inlet is oriented to receive air radially with respect to the compressor.

8. The turbocharger assembly as recited in claim 1 wherein the means for controlling comprises an annular member that is movably disposed within the compressor housing, and that is positioned downstream of the compressor to control the flow of pressurized air within the compressor.

9. The turbocharger assembly as recited in claim 8 wherein the annular member is movably disposed within a wall section of the compressor housing and is positioned to control the flow of pressurized air from one of the compressor impellers when placed in an actuated position.

10. A turbocharger assembly comprising:

a turbine housing;

a turbine wheel rotatably disposed within the turbine housing and attached to a shaft;

a center housing connected to the turbine housing and carrying the shaft;

a compressor housing attached to the center housing;

a compressor rotatably disposed within the compressor housing and attached to the shaft, the compressor comprising two impellers in back-to-back orientation with one another, the compressor housing including at least one air inlet in air flow communication with each of the compressor impellers; and

an annular member moveably disposed within a wall cavity of the compressor housing downstream of the compressor for controlling the flow of pressurized air from one of the compressor impellers when placed in an actuated position.

11. The turbocharger assembly as recited in claim 10 wherein the compressor housing includes two separate air inlets that are in air flow communication with respective compressor impellers.

12. The turbocharger assembly as recited in claim 11 wherein the air inlets are arranged to receive air axially into the compressor housing with respect to the compressor, and are in communication with separate air passages within the compressor housing that are each in air flow communication with respective compressor impellers.

13. The turbocharger assembly as recited in claim 11 wherein the air inlets are oriented to receive air radially with respect to the compressor, and are in communication with separate air passages within the compressor housing that in air flow communication with respective compressor impellers.

14. The turbocharger assembly as recited in claim 10 wherein the compressor housing comprises a single common air inlet that is in air flow communication with respective compressor impellers.

15. The turbocharger assembly as recited in claim 14 wherein the air inlet delivers air axially into the compressor housing with respect to the compressor, and is in communication with two concentrically arranged air passages that are each in air flow communication with respective compressor impellers.

16. The turbocharger assembly as recited in claim 14 wherein the air inlet delivers air radially into the compressor housing with respect to the compressor, and is in communication with two air passages that are each in air flow communication with respective compressor impellers.

17. A turbocharger assembly comprising:

a turbine housing;

a turbine wheel rotatably disposed within the turbine housing and attached to a shaft;

a center housing connected to the turbine housing and carrying the shaft;

a compressor housing attached to the center housing;;

a compressor rotatably disposed within the compressor housing and attached to the shaft, the compressor comprising two impellers in back-to-back orientation with one another, the compressor housing having a volute positioned concentrically around the compressor and including a single air inlet that is in air flow communication with two concentrically oriented air flow passages, each air flow passage being in air flow communication with respective compressor impellers; and

an annular member moveably disposed within a wall cavity of the compressor housing interposed between the compressor and the volute for controlling the flow of pressurized air from one of the compressor impellers when placed in an actuated position.

18. A method for providing pressurized air for combustion by an internal combustion engine, the method comprising:

directing exhaust gas from the internal combustion engine to a turbine housing of a turbocharger to rotate a turbine wheel rotatably disposed therein, wherein the rotation of the turbine wheel causes a compressor to also rotate within a compressor housing;

directing air into the compressor housing and to the compressor, the compressor comprising two back-to-back oriented impellers to produce pressurized air; and

controlling the flow of pressurized air exiting the compressor housing from at least one of the impellers depending on the operating conditions of the internal combustion engine.

19. The method as recited in claim 18 wherein the step of controlling comprises actuating an annular member that is movably disposed within the compressor housing to project into an air flow path downstream of the compressor.